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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/700,255      | 11/03/2003  | Freddie Ray Roberts  | 030403ROBERTS       | 3705             |

7590                    07/05/2005

David Douglas Winters, Patent Attorney  
2277-C, Suite 237  
Wilma Rudolph Blvd  
Clarksville, TN 37040-5898

EXAMINER

HARRIS, KATRINA B

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|          | 3747         |

DATE MAILED: 07/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                        |                      |
|------------------------------|------------------------|----------------------|
| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b>  |
|                              | 10/700,255             | ROBERTS, FREDDIE RAY |
|                              | <b>Examiner</b>        | <b>Art Unit</b>      |
|                              | Katrina B. Harris      | 3747                 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 07 January 2005.  
 2a) This action is FINAL.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-26 is/are pending in the application.  
 4a) Of the above claim(s) 7 and 8 is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-6,9,11-20 and 22-26 is/are rejected.  
 7) Claim(s) 10,18 and 21 is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____. | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|   | 6) <input type="checkbox"/> Other: _____.                                   |

**DETAILED ACTION**

***Election/Restrictions***

Claims 7 and 8 withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on January 7, 2005.

The traverse is moot since no claims would be exclusive to species (II).

Applicant will be held to election of claims exclusive to species (II) are later presented.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-6, 9, 11-20, 22-26 are rejected under 35 U.S.C. 102(b) as being anticipated by Warren (6,209,495). Warren discloses an internal combustion engine machine incorporating significant improvements in power, efficiency and emissions control comprising, a one or more cylinders, each having a head, a combustion chamber, a base, a compression chamber and a sidewall, One or more means of igniting fuel in the cylinders; One or more sources of intake air; a means of storing and/or cooling lubricating oil between cycles of circulation, A drive train, a means of encasing, protecting, cooling and lubricating the drive train; A means of segregating the

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oil in the sump and/or crankcase from the air or air/fuel mixture in the cylinder, A means of dispersing oil on the cylinder walls and of then gathering excess for return to the oil sump; A means of transmitting energy to and from the pistons, a means of guiding each piston rod such that it moves in a linear manner, always along the same line; a means of drawing air or air/fuel mixture into the engine machine, propelling it into the cylinder combustion chamber, compressing it for ignition and propelling its expulsion after ignition; a means of admitting air and fuel, or air/fuel mixture into each cylinder; a means of efficiently expelling exhaust gases resulting from combustion of the air fuel mixture after energy has been extracted; a means of transmitting energy from the piston rod to the drive train; a means of cooling the engine; a means of transporting dispersing gathering and returning lubricating/cooling oil while keeping it segregated from combustion air and fuel;

Regarding claim 2, comprising a plurality of cylinders in one or more banks of two opposing cylinders each;

Regarding claim 3, wherein the means of transmitting energy to and from the each piston is a piston-rod with a piston attached at one end, each piston rod passing through the base of its cylinder, carrying the force of its associated piston power stroke to the drive train, the piston rod be linked to the drive shaft by a push rod in the crankcase/oil sump, propelling a transmission mechanism, such as a crank-plate or other rotary or linier device powering a drive shaft;

Regarding claim 4, an engine machine as in claim 1 wherein the means of cooling the engine is via exhaust gas expansion, cooling fins on the engine machine

and via a large volume of oil circulated through the cylinders and pooled in the sump, the sump acting as a heat sink for oil circulating from the cylinders',

Regarding claim 5, wherein the means of transmitting energy from the piston rod to the drive train is a rotary device, such as a crank plate, linked to the piston rod by a push rod;

Regarding claim 6, in which the means of transmitting energy from the 15 piston rod to the drive train is, such as a rack and pinion transmission system, segmented gear drive, or a ratchet device;

Regarding claim 9, wherein the means of admitting air or air/fuel mixture into each cylinder obtained by intake pods in the sidewall of each cylinder',

Regarding claim 11, wherein the means of drawing air or air/fuel mixture into the system, propelling it into the cylinder combustion chamber, compressing it for ignition and expelling it after ignition is a "multi-function piston' that draws air or air/fuel mixture from the intake source and into the compression chamber beneath the piston on an up stroke and propels it out of the compression chamber into the cylinder combustion chamber above the piston on a down stroke, and on the immediately subsequent upstroke, compresses the air or air/fuel mixture in the combustion chamber, then, upon combustion and expels the exhaust;

Regarding claim 12, wherein the means of guiding each piston rod such that it moves in a linear manner, always along the same line is the compression wall and the piston rod compression seal serving as a piston rod guide to hold each pistons in correct position within its cylinder;

Regarding claim 13, wherein there is provided for each cylinder, a multi-function piston performing four "drive" functions plus lubrication, the "drive" functions being to (1) draw in new air or air/fuel mixture into the intake chamber (2) propel the new air or air/fuel mixture into the combustion chamber (3) compress the 26 air/fuel mixture in the cylinder combustion chamber, (4) receive the force of combustion for the power stroke for transmission to the piston rod, and (5) receive, disperse and recoup lubricating oil for return to the oil sump/cooler;

Regarding claim 14, wherein the means of dispersing oil on the cylinder walls and of then gathering excess for return to the oil sump is oil hoarding rings, these rings located near the head and base of each piston, such that they contain any oil dispersed between them, and when in motion, push said oil before them, substantially wiping it off the cylinder walls and leaving only a fine film behind as they move

Regarding claim 15, wherein the means of segregating the oil in the sump and/or crank case from the air or air/fuel mixture in the cylinder is in the form of a compression wall and piston rod pressure seal at the base of each cylinder, the compression wall segregating the fuel and air in the cylinder from the lubricating/cooling oil in the oil sump/crankcase, thus creating a segregated and sealed intake chamber into which the air or fuel/air mixture is first received from the carburetor or breather and from which it is discharged into the cylinder combustion chamber, the piston rod passing through the compression wall at the base of each corresponding cylinder and into the sump/crankcase by way of the compression wall and pressure seal;

Regarding claim 16, wherein the means of encasing, protecting, and lubricating the drive train is a combination crankcase/oil sump;

Regarding claim 17, wherein the means of storing and/or cooling the oil between cycles of circulation is a combination crankcase/oil sump;

Regarding claim 19, wherein the means of igniting the fuel is an electrical spark;

Regarding claim 20, wherein, the means of transporting, dispersing, gathering and returning lubricating/cooling oil while keeping it segregated from combustion air and fuel is a dynamic force lubricating oil pump comprising a piston rod/lubrication assembly that serves as both a means of transmitting force to and from the piston and as a means to transmit lubricating/cooling oil to its cylinder via a multi-function piston, the assembly comprising a piston rod with a multi-function piston attached to each end and oil pick-up and exhaust pods in its mid section, and oil transport passages in the piston rod from the oil pick-up nozzles to the multi-function piston assembly and back to the oil exhaust ports, the piston assembly having a multi-function piston configured with one or more radially situated oil inlet and outlet ports that distribute lubricating oil to the associated cylinder and recovers the oil for return to the sump/crankcase, using oil hoarding rings near each piston head and base to assist in dispersing and then re-gathering the oil for return to the cooling sump such that oil flows through the piston rod and piston, and around the piston, lubricating and cooling piston walls, piston rings and cylinder walls, and returns through the piston and piston rod to the oil sump/crank case for cooling, the piston rod and drive train being lubricated by splash distribution in the crank-case/oil sump;

Regarding claim 22, wherein a wrist pin links each piston to its piston rod, rendering the combination less rigid;

Regarding claim 23, wherein the means of igniting fuel in the cylinders comprises explosive compression in the cylinder head;

Regarding claim 24, wherein means of igniting fuel in the cylinders comprises a glow plug.

Regarding claim 25, wherein the means of transmitting energy to and from the pistons is a piston-rod between and joining each pair of pistons in each cylinder bank such that each piston rod has a piston at each end, the piston rod passing through the bases of each associated cylinder, each piston rod carrying the force of each piston power stroke to the drive train, and across to the opposite associated piston to power that piston's compression stroke, the piston rod to be linked to the drive shaft: by a push rod in the crankcase/oil sump, propelling a crank-plate or other rotary or liner transmission device that is geared to the drive shaft;

Regarding claim 26, wherein there is a plurality of banks of cylinders, each bank comprised of two or more cylinders and the drive train of each bank joined to the drive train of its neighboring bank(s) in such a way that each bank may be independently disconnected from its neighbor(s) and shut down automatically or at the discretion of the operator, the manner of joining the bank drive trains being, in example, manual clutch(es), centrifugal clutch(es), or ratchet devices.

***Allowable Subject Matter***

Claims 10 and 21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patent No. 2,825,319 issued to Harrer is a similar system.

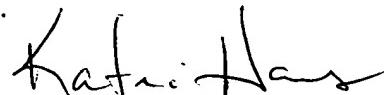
***Communication***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Katrina B. Harris whose telephone number is 571-272-4842. The examiner can normally be reached on 6:30 AM -3:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Henry Yuen can be reached on 571-272-4856. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Katrina B. Harris  
Examiner  
Art Unit 3747

KBH



Andrew M. Dolinar  
Primary Examiner